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JANUARY through DECEMBER, 1966

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CALENDAR

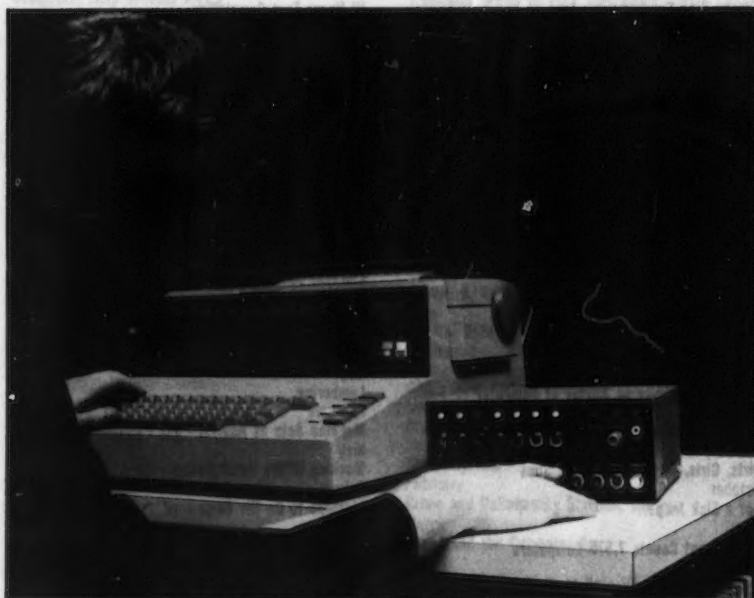
MARCH 27-28

Seminar: Accounting Applications of EDP
 sponsored by NAA.
 Americana, New York, N. Y.
 (Palmer House, Chicago, April 24-25)
 Contact: Registrar, National Association of
 Accountants, 505 Park Avenue, New York,
 N. Y. 10022.

MARCH 27-29

Course: Basic Data Processing Concepts
 and Techniques sponsored by NAA.
 Americana, New York, N. Y.
 Contact: Registrar, National Association of
 Accountants, 505 Park Avenue, New York,
 N. Y. 10022.

(continued on next page)



THANKS to a diagnostic device with a built-in "baby-sitter" — not for watching children but electronic circuits — IBM customer engineers can now check remote IBM 1050 data communications terminals without using the customer's computer system or phone lines.

The new device, called an IBM 1050 terminal tester, is shown at the right of the typewriter-like terminal. The unit was developed by the company for the IBM Field Engineering Division's customer engineers who install and service the company's information handling systems.

A key feature of the new diagnostic aid is the "baby-sitter." In the customer engineer's jargon, this is a term used to identify a feature that monitors and traps intermittent malfunctions in circuits.

PURDUE PROFESSOR DESIGNS ELECTRONIC SYSTEM THAT LEARNS BY ITSELF

INDIANA BUSINESS NEWS

SO FAR COMPUTERS have not been able to solve problems and make decisions without first being programmed to do so. But Professor Edward R. Patrick of Purdue University is working on a new electronic system in which a built in computer will learn by itself. His work is sponsored by Air Force and Navy contracts totaling \$115,920.

The system learns by recognizing, characterizing, and storing the statistics of distinctive patterns which identify a given object, man-made or natural. He used a submarine example in his experiment. Patrick first programmed all tiny types of information and environmental cues. With these generalized inputs as a starting point, the computer was able to simulate the identification of submarine sonar returns it had never received before, without supervision. It sorted out and stored this information, then later used it to identify each object.

Later this year Patrick hopes to have an operational demonstration model. He emphasizes that the heart of the system is general. It will not be restricted to identification by sound or other physical mediums.

One of the future applications could be medical diagnosis. Other applications could be underground oil exploration, detection of clear air turbulence, and the sorting out and identifying of any live and decay nuclear missiles directed at United States targets.

FARMERS KEEP RECORDS ON ELECTRONIC COMPUTERS

Carmi, Ill. TIMES

U.S. FARMERS in increasing numbers are keeping farm records in computers. Levon Fife, an executive with International Harvester, says that university programs provide opportunities for more than 10,000 farmers to use their electronic data processing equipment.

Through computer use, accurate and detailed records, not to mention enterprise cost accounting, are now a reality for many American farm owners, he told the audience at an Agricultural Industries Forum.

Farmers are allowed a great deal of flexibility in the type and quantity of data which they provide. However, only limited projections and analyses can be made from limited information.

The more comprehensive programs provide participating farmers with detailed summaries on a monthly, as well as yearly basis, for each farm enterprise. These include prices and values of sales and a complete record of quantities and expenses. The statement shows the net loss and profit for the various enterprises.

Analysis of such data can enable a computer to determine how a specific operation can solve one of its problems. For example, cattle feeding enterprises wish to determine the feeds which will provide maximum gains with minimum costs. This program requires that an analysis be made of feed nutrients. Consequent to one such survey, cattle feeders are buying feed on the basis of nutrient value, not on the basis of weight which was previously done.

In another example, fertilizer companies have developed programs to determine the best fertilizing program for specific farms. This involves programming such data as soil temperature, effect of moisture, fertility level, and soil types. Using this information the computer determines the kind and optimum amount of fertilizer for a particular crop, with particular weather conditions, in a particular field.

Tractors and machinery have also been taken into consideration for computer analysis. Cost per hour of use and depreciation schedules can be used to develop equipment costs for purposes of income tax. Other programs have even been written to determine the best combination of machines and power to perform certain operations for a farm of given size, type, and location.

COMPUTER: PSYCHIATRY'S NEW TOOL

BY JUDITH RANDAL

STAR-LEDGER, Newark, N.J.

TECHNOLOGY IS NOW being used by psychiatrists to make people whole, instead of pulling them apart, Dr. Leonard Duhl explains. Computers are used in a new method of analysis called General Systems Theory. The theory is similar to those in physics or mathematics which say atoms and molecules can react with each other in a range of predictable ways. The Systems Theory says that humans can react in essentially the same way. It is this range of possible actions between a person, his fellows, and the environment that makes him sick or well. The computer is used to keep track of all the many factors involved in the actions and the persons who commit the actions.

Besides the actual range of actions, there are established patterns. These patterns are related to the way a person is reared and his behavior during this rearing. The computer codifies the patterns and also the communications between the family and the patient. No doctor could possibly remember all these facts, thus the computer stores them for ready access. It can make sense out of masses of seemingly isolated facts.

MARCH 27-30

1967 National Conference on Public Administration sponsored by ASPA, Fairmont Hotel, San Francisco, Calif.

Contact: Walter L. Webb, Director of Publications, American Society for Public Administration, 1329—18th Street, N.W., Washington, D.C. 20036.

MARCH 27-31

Seminar: Cost Effectiveness through Value Analysis sponsored by NAA.

New York (April 24-28, Chicago)

Contact: Registrar, National Association of Accountants, 505 Park Avenue, New York, N. Y. 10022.

MARCH 27-31

Seminar: CPM/PERT for Planning and Control sponsored by NAA.

New York (April 24-28, Chicago)

Contact: Registrar, National Association of Accountants, 505 Park Avenue, New York, N. Y. 10022.

MARCH 30-31

Course: Scientific Inventory Management sponsored by the NAA.

Americana, New York (Palmer House, Chicago, on April 27-28)

Contact: Registrar, National Association of Accountants, 505 Park Avenue, New York, N. Y. 10022.

APRIL 4-7

Univac Users Association & Univac Scientific Exchange.
Fontainebleau Hotel, Miami, Fla.

APRIL 4-7

The H-8000/18000 Users Association Spring Conference on "Education."

Bellevue Stratford Hotel, Philadelphia, Pa.

Contact: K. H. Pearce, Northern Illinois Gas Company, P.O. Box 190, Aurora, Illinois 60507.

APRIL 7

Symposium: "An Evaluation of Terminal Systems—Man-Computer Communications" sponsored by the San Francisco Bay Area Chapter of the Association for Computing Machinery.

Jack Tar Hotel, San Francisco, Calif.

Contact: A. E. Cordan, Lockheed Missile and Space Co., P.O. Box 504, Sunnyvale, Calif. 94088.

APRIL 12-14

Seminar: Auditing Computer Operations sponsored by The Association for Bank Audit, Control, and Operation, Buffalo, N. Y.

Contact: NABAC, 205 W. Touhy Ave., P.O. Box 500, Park Ridge, Illinois.

APRIL 13-14

NCR 304 Users Association meeting.
Dayton, Ohio.

Contact: J. S. Zajicek, Sec., NCR 304 Users Assn., Building 26, Main and K Streets, Dayton, Ohio 45409.

APRIL 14-15

DECUS Spring Symposium, Digital Equipment Computer Users Society, on "Display Applications".

Rutgers University, New Brunswick, N. J.

Contact: Angela J. Cossette, DECUS, Maynard, Mass. 01754.

(continued on next page)

APRIL 17-28

Course: Advances in Digital Systems Design
 "Hardware, Software" sponsored by University
 of California Extension, Los Angeles. UCLA.
 Contact: Program Promotion,
 University of California Extension,
 Los Angeles, California 90024.

APRIL 18-20

Spring Joint Computer Conference.
 Chalfonte-Haddon Hall, Atlantic City, N. J.
 Contact: M. P. Chinitz, UNIVAC,
 P.O. Box 500, Blue Bell, Pa.

APRIL 19-22

Annual Convention: National Society for
 Programmed Instruction sponsored by NSPI.
 Boston, Massachusetts.
 Contact: Nancy Willford, Honeywell EDP Div.,
 Walnut St., Wellesley Hills, Mass. 02181.

APRIL 21

Spring National SCI Meeting, "Simulation and
 Education," "Management of Hybrid Computer
 Systems," sponsored by SCI.
 Atlantic City, N. J.
 Contact: Ben B. Barnes, Computer Sciences
 Corp., 8300 Whitesburg Dr., SW,
 Huntsville, Alabama 35802.

APRIL 24-28

College and Universities Systems Exchange
 (CAUSE) & College and Universities Machine
 Records Conference.
 Albuquerque, New Mexico.
 Contact: Jack Feise, Data Processing Center,
 Education Complex, University of New Mexico,
 Albuquerque, New Mexico 87106.

APRIL 24-27

Institute: "Management Technology and the
 Optimization of Research and Development"
 sponsored by American University.
 Twin Bridges Motor Hotel, Washington, D. C.
 Contact: Center for Technology and Administra-
 tion, American University, 2000 G Street, N.W.,
 Washington, D. C. 20006.

APRIL 24-MAY 5

IEEE Region 8, United Kingdom and Erie Sections
 et. al., Conference on Integrated Circuits.
 London, England.

APRIL 26-28

16th Annual Convention, National Microfilm
 Association (NMA).
 Americana Hotel, Miami, Fla.
 Contact: Vernon D. Tate, Sec., P.O. Box 386,
 Annapolis, Maryland 21400.

BOOK NOTES

PROGRAMMING THE IBM SYSTEM/360

BY THE STAFF OF COMPUTER USAGE COMPANY, EDITED BY ASCHER OPLER.
 John Wiley and Sons Inc., 1966, 316 pages, \$7.50.

Twenty subject specialists at the Computer Usage Company pooled their knowledge to write this valuable book. It is clearly written for application programmers who plan to write routines in System/360 assembly language.

It is partly an expository treatment of how the features of the Systems/360 work but it is also intended to alleviate the gap that has been created by more advanced and more complexed systems and fewer trained people in assembly language programming.

The reader should be familiar with programming in a symbolic language in order to understand the methods of programming in assembly language. The main part of the text deals with techniques that may be carried out in the program state such as addressing, branching, arithmetic conversions, bit manipulation, character transformation, etc.

Sections I and II are basic summaries of the operation of the machine and the assembly language. The last portion of the book is an appendix containing the instruction formats by mnemonic, character codes, Hexadecimal-Decimal Conversion Table, and detailed information on typical input/output device responses.

In general, the presentation is basic enough so that it should be a valuable asset to anyone concerned with the use of the Systems/360 computers.

MODERN CONTROL SYSTEMS THEORY

EDITED BY CORNELIUS T. LEONDES, McGraw-Hill Book Co., 1965, 486 pages, \$17.50.

This book is an encompassing, detailed treatment of the most important topics and techniques in modern control systems theory. Outstanding workers in the field of aerospace industry and at the University of California at Los Angeles compiled this book at a graduate level for students in electrical, aerospace, mechanical, and chemical engineering. Practicing engineers will also find this book valuable in solving their immediate problems.

The book gives broad and technical coverage to contemporary problems and topics in control systems. Topics covered include the analysis and synthesis of linear time variable systems; synthesis of multiple input-multiple output control systems; fundamental concepts in functional analysis and their application to control system problems; and new topics in Lyapunov function techniques including Schultz' Variable Gradient technique and methods for the generation of Lyapunov functions for non-autonomous systems.

Modern Control Systems Theory is an effort to bridge the gap between advanced theoretical techniques and potentially important applications.

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